Title: Autonomous Data Mining.
Inventor: Andrew CONWAY
Docket: 208.1001.02
Technical Appendix

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Attorney docket number 208.1001.02

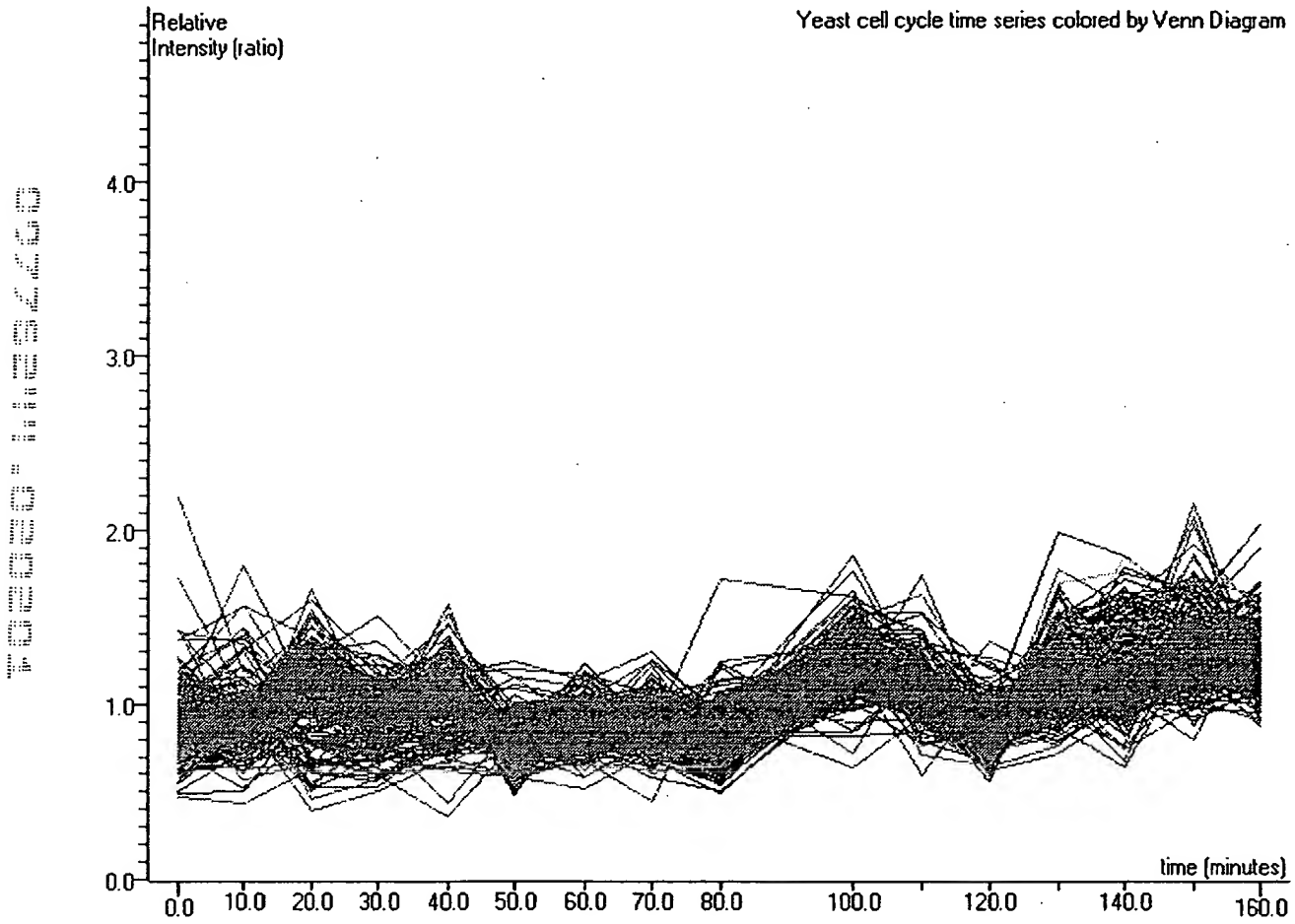
Yeast cell cycle time series and ribosome

I was looking through your experiment called `Yeast cell cycle time series' and found something I think you will find interesting.

I have found a set of 67 genes with similar expression patterns in `Yeast cell cycle time series'. These genes are statistically similar to genes in another gene list containing 159 genes called `ribosome'. `ribosome' is a Gene List in the folder 'PIR keywords'. It was made by Andrew Conway from Silicon Genetics. These two lists share 18 genes in common.

There is of course a chance this is just a coincidence. I rate that chance at one in 1,252,202,449.

A picture is attached. If you would like to look at this in greater detail, please use the attached GeneSpring bookmark,Report23haystack.gsp or follow this link: GenEx



The co-regulated genes are plotted in red, and the genes in ribosome are plotted in green. If a gene is both, it is colored yellow.

Genes in both lists:

YBR048W (RPS11B)

YDL081C (RPP1A)

YDL130W (RPP1B)

YDR447C (RPS17B)

YDR450W (RPS18A)

Eide LG, Sander C, Prydz H. Sequencing and analysis of a 35.4 kb region on the right [corrected] arm of chromosome IV from Saccharomyces cerevisiae reveal 23 open reading frames. Yeast. 1996 Sep;12(10B Suppl):1085-90.

Folley LS, Fox TD. Reduced dosage of genes encoding ribosomal protein S18 suppresses a mitochondrial initiation codon mutation in Saccharomyces cerevisiae. Genetics. 1994 Jun;137(2):369-79.

YDR471W (RPL27B)

YDL136W (RPL35B)

YDL082W (RPL13A)

Higa S, Yoshihama M, Tanaka T, Kenmochi N. Gene organization and sequence of the region containing the ribosomal protein genes RPL13A and RPS11 in the human genome and conserved features in the mouse genome. Gene. 1999 Nov 29;240(2):371-7.

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YDL083C (RPS16B)

YDR012W (RPL4B)

Ohtake Y, Wickner RB. KRB1, a suppressor of mak7-1 (a mutant RPL4A), is RPL4B, a second ribosomal protein L4 gene, on a fragment of Saccharomyces chromosome XII. Genetics. 1995 May;140(1):129-37.

YDL061C (RPS29B)

YDL075W (RPL31A)

YDR382W (RPP2B)

YCR031C (RPS14A)

YDR500C (RPL37B)

Boyer J, Michaux G, Fairhead C, Gaillon L, Dujon B. Sequence and analysis of a 26.9 kb fragment from chromosome XV of the yeast Saccharomyces cerevisiae. Yeast. 1996 Dec;12(15):1575-86.

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Paulovich AG, Thompson JR, Larkin JC, Li Z, Woolford JL Jr. Molecular genetics of cryptopleurine resistance in Saccharomyces cerevisiae: expression of a ribosomal protein gene family. Genetics. 1993 Nov;135(3):719-30.

YGL030W (RPL30)

Li B, Nierras CR, Warner JR. Transcriptional elements involved in the repression of ribosomal protein synthesis. Mol Cell Biol. 1999 Aug;19(8):5393-404.

van Soest S, van Rossem MJ, Heckenlively JR, van den Born LI, de Meulemeester TM, Vliex S, de Jong PT, Bleeker-Wagemakers EM, Westerveld A, Bergen AA. Integrated genetic and physical map of the 1q31-->q32.1 region, encompassing the RP12 locus, the F13B and HF1 genes, and the EEF1AL11 and RPL30 pseudogenes. Cytogenet Cell Genet. 1999;84(1-2):22-7.

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Genuario RR, Perry RP. The GA-binding protein can serve as both an activator and repressor of ribosomal protein gene transcription. J Biol Chem. 1996 Feb 23;271(8):4388-95.

Safrany G, Perry RP. The relative contributions of various transcription factors to the overall promoter strength of the mouse ribosomal protein L30 gene. Eur J Biochem. 1995 Jun 15;230(3):1066-72.

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Batra SK, Metzgar RS, Hollingsworth MA. Molecular cloning and sequence analysis of the human ribosomal protein S16. J Biol Chem. 1991 Apr 15;266(11):6830-3.

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YIL148W (RPL40A)

Coregulated genes not in ribosome

YAL003W (EFB1)

Maneu V, Martinez JP, Gozalbo D. Identification of Candida albicans clinical isolates by PCR amplification of an EFB1 gene fragment containing an intron-interrupted open reading frame. Med Mycol. 2000 Apr;38(2):123-6.

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Song JM, Cheung E, Rabinowitz JC. Organization and characterization of the two yeast ribosomal protein YL19 genes. Curr Genet. 1996 Sep;30(4):273-8.

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Barendse W, Armitage SM, Aleyasin A, Womack JE. Differences between the radiation hydrid and genetic linkage maps of bovine chromosome 5 resolved with a quasi-phylogenetic method of analysis. Mamm Genome. 2000 May;11(5):369-72.

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YDR025W (RPS11A)

YDL208W (NHP2)

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YFL039C (ACT1)

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